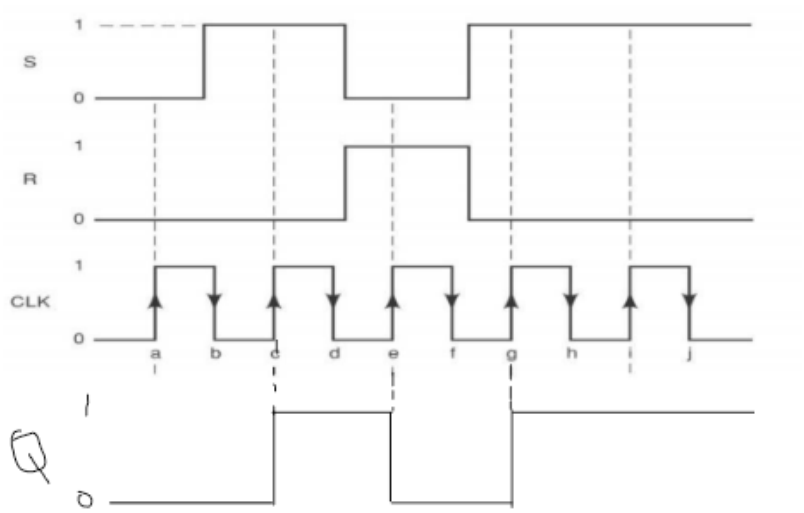
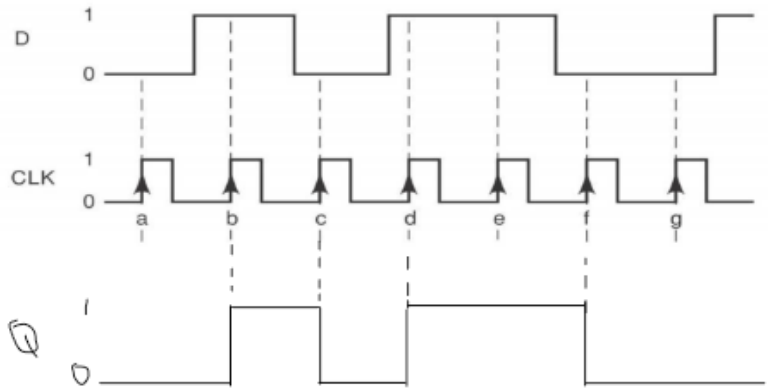
Nama : Rivo Juicer Wowor
Kelas : CE232-C

1.

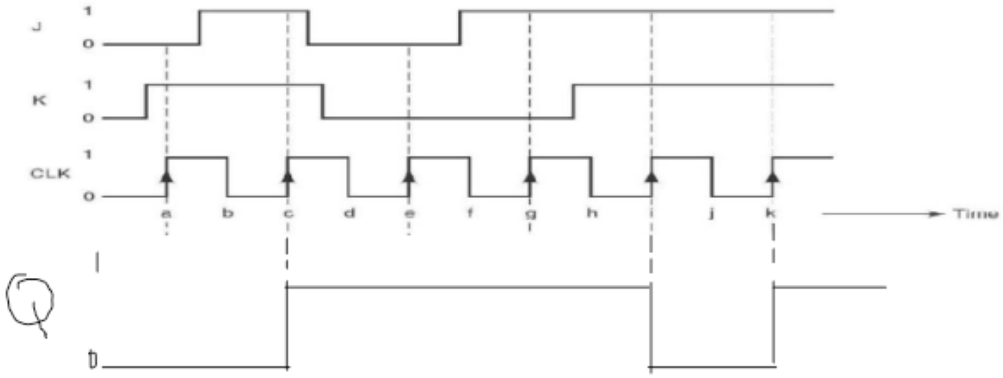
(a)



(b)



(c)



2.

(a) Rumus

$T_A = 1$

$T_B = A$

$T_C = AB$

Present	Input	Next
000	001	001
001	011	010
010	001	011
011	111	100
100	001	101
101	011	110
110	001	111
111	111	000

(B) $D_A = A'C'$

$D_B = AB'C' + A'BC'$

$D_C = ABC'$

Present	Input	Next
000	001	001
001	010	010
010	011	011
011	100	100
100	000	000
101	000	000
110	000	000
111	000	000

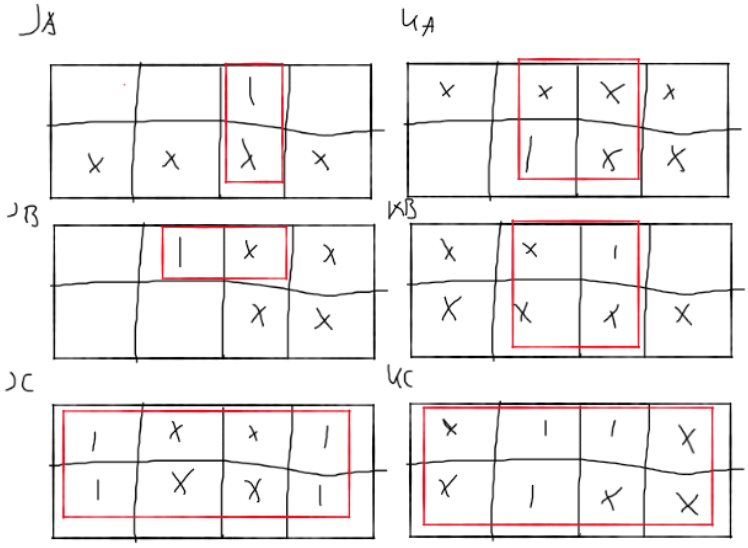
(C) $J_A = \bar{C}$, $K_A = \bar{C}$

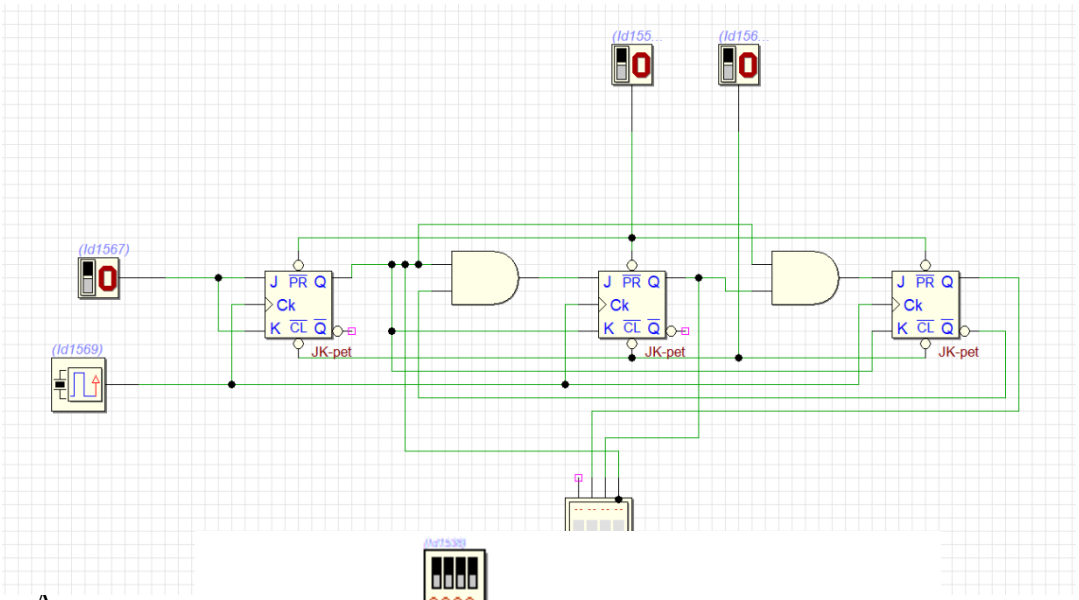
$J_B = A$, $\bar{K}_B = A$

$J_C = AB$, $K_C = C$

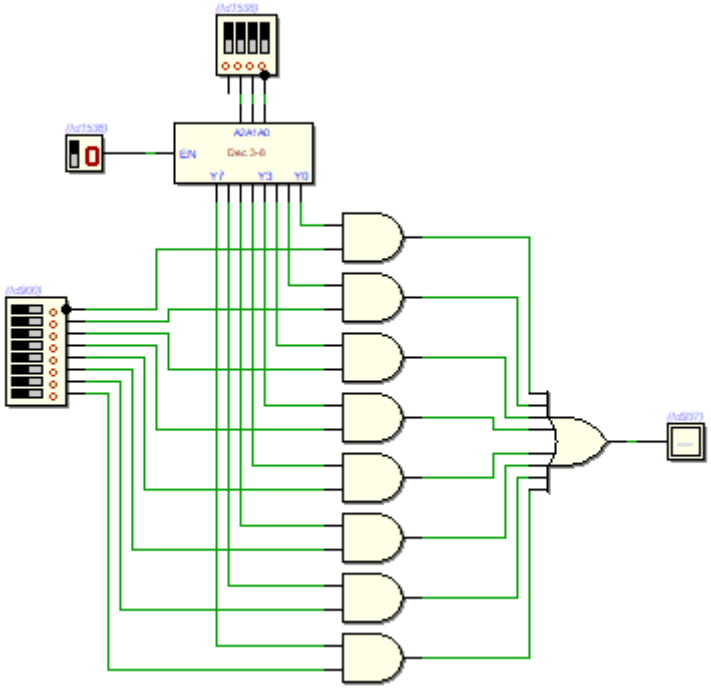
Present	Input			Next
	$J_A K_A$	$J_B K_B$	$J_C K_C$	
000	00	00	11	001
001	00	11	11	010
010	00	00	11	011
011	10	11	11	100
100	01	00	00	000
101	01	11	00	011
110	01	00	00	010
111	11	11	00	001

3.





4. A.



B.

Decimal	Input				Output							Display Pattern
	A	B	C	D	a	b	c	d	e	f	g	
0	0	0	0	0	1	1	1	1	1	1	0	0
1	0	0	0	1	0	1	1	0	0	0	0	1
2	0	0	1	0	1	1	0	1	1	0	1	2
3	0	0	1	1	1	1	1	1	0	0	1	3
4	0	1	0	0	0	1	1	0	0	1	1	4
5	0	1	0	1	1	0	1	1	0	1	1	5
6	0	1	1	0	1	0	1	1	1	1	1	6
7	0	1	1	1	1	1	1	0	0	0	0	7
8	1	0	0	0	1	1	1	1	1	1	1	8
9	1	0	0	1	1	1	1	1	0	1	1	9

5. A.

Present State	Next State		Output	
	X = 0	X = 1	X = 0	X = 1
A	A	B	0	0
B	C	D	0	0
C	A	D	0	0
D	E	F	0	1
E	A	F	0	1
F	G	F	0	1
G	A	F	0	1

B.

C.

6.

From	the	output	Decoder	Determine	
A			0 000	01	<= A'B'C'D'E'
			1 000	01	
			2 000	10	
			3 000	11	
		...			
			15 011	11	
			16 100	00	<= AB'C'D'E'
			17 100	01	
		...			
			28 111	00	<= ABCD'E'
			29 111	01	
		...			
			32 111	11	

$$A2 = \overline{A}\,\overline{B}\,\overline{C}\,\overline{D}\,\overline{E} + A\,\overline{B}\,\overline{C}\,\overline{D}\,\overline{E} + A\,B\,C\,\overline{D}\,\overline{E}$$

$$= \overline{I0}\,\overline{I1}\,\overline{I2}\,\overline{I3}\,\overline{I4} + I0\,\overline{I2}\,\overline{I3}\,\overline{I4} + I0\,I1\,I2\,\overline{I3}\,\overline{I4}$$

B. A5 = I0'I1'I2'I3'I4 + I0' I1 I2 I3 I4
= I0 I1 I2 I3 I4

C. Q0 = A + B D' + C D' + D
Q2 = AB'C + 0 + 0 + 0